

1. A gold club, comprising: a clubhead having a hosel receiving an elongated shaft, said clubhead being constructed of a metal alloy, said clubhead having a generally vertical impact supporting wall with a plurality of integral interconnected bars for reinforcing the impact supporting wall projecting forwardly from the impact supporting wall, said bars including a first plurality of bars intersected by a second plurality of bars forming a unit cell structure with a plurality of cells encapsulated by other cells, and a face wall defining a ball striking surface integrally bonded to and covering a forward surface of the impact supporting wall and at least portions of the integral reinforcing bars, said clubhead being cast separately from the face wall.

2. A gold club, as defined in claim 1, wherein the face wall is constructed of a material easily moldable over the supporting wall and reinforcing bars.

3. A gold club, as defined in claim 1, wherein the club head is a composite high impact golf clubhead, wherein the reinforcing bars form part of an "I" beam supporting structure for a composite impact wall, said face wall being formed over the supporting wall and constructed of a different material therefrom having a forward ball striking surface that together with the supporting wall define a composite ball striking wall having increased strength and improved ball striking performance.

4. An investment cast metal clubhead, comprising: an investment cast metal clubhead having an integral forward wall and a generally cup-shaped rear wall surrounding a rear surface of the forward wall and extending only rearwardly therefrom, said forward wall and said rear wall each having interior surfaces meeting at a junction line and forming an included angle therebetween, said included angle being less than 90 degrees in at least certain portions of the interior surfaces rendering difficult the removal of core pieces from the hollow interior of the clubhead during the investment cast molding process, said forward wall having a plurality of integral reinforcing elements projecting forwardly therefrom, and a ball striking face wall situated over and in contact with the forward wall defining the ball striking surface, whereby difficult to remove interior core pieces are eliminated.

5. An investment cast metal clubhead, as defined in claim 3, wherein said ball striking face wall is formed over both the forward wall and at least portions of the reinforcing elements, said face wall having a forward ball striking surface with a plurality of ball spin producing grooves therein.

6. A golf club, comprising: a clubhead having a hosel receiving an elongated shaft, said clubhead being constructed of a metal alloy, said clubhead having a generally vertical impact supporting wall with a plurality of integral reinforcing bars projecting forwardly from the impact supporting face wall, and a face wall defining a ball striking surface integrally bonded to and covering a forward surface of the impact supporting face wall and

at least portions of the integral reinforcing bars, said club head being a composite high impact golf clubhead, wherein the reinforcing bars form part of an "I" beam supporting structure for a composite impact wall, said face wall being formed over the supporting wall and constructed of a different material therefrom having a forward ball striking surface that together with the supporting wall define a composite ball striking wall having increased strength and improved ball striking performance, said reinforcing bars projecting from the supporting wall a distance less than 0.250 inches, and said face wall being formed between the interstices of the reinforcing bars and engaging the supporting wall to form an effective "I" beam composite forward ball striking wall having improved strength and weight characteristics.

7. A golf club, comprising: a clubhead having a hosel receiving an elongated shaft, said clubhead being constructed of a metal alloy, said clubhead having a generally vertical impact supporting wall with a plurality of integral bars for reinforcing the impact supporting wall projecting forwardly from the impact supporting wall, and a face wall defining a ball striking surface of the impact supporting wall and covering at least portions of the integral reinforcing bars, said clubhead being cast separately from the face wall, said face wall being a moldable face wall defining the ball striking surface covering and in contact with a forward surface of the impact supporting wall, said face wall being constructed of a material having a density substantially less than the density of the clubhead so the composite of the clubhead and the face wall are within the limits of acceptable club total weight and swing weight.

8. An investment cast metal clubhead, comprising: an investment cast clubhead having an integral forward wall and a generally cup-shaped rear wall surrounding a rear surface of the forward wall and extending only rearwardly therefrom, said forward wall and said rear wall each having interior surface meeting at a junction line and forming an included angle therebetween, said included angle being less than 90 degrees in at least certain portions of the interior surfaces thereof rendering difficult the removal of core pieces from the hollow interior of the clubhead during the investment cast molding process, said forward wall having a plurality of integral reinforcing elements projecting forwardly therefrom, and a ball striking face wall situated over and in contact with the forward wall defining the ball striking surface, whereby difficult to remove interior core pieces are eliminated, said face wall being constructed of a material having a density substantially less than the density of the clubhead so the composite of the clubhead and the face wall is within the limits of acceptable club total weight and swing weight.

9. A method of manufacturing a composite golf clubhead, including the steps of forming a metal clubhead having an impact absorbing generally vertical forward metal wall, forming a plurality of integral reinforcing elements on a forward surface of the impact wall, and thereafter attaching a ball impact insert means on the reinforcing elements in intimate contact with the reinforcing elements and the forward wall to achieve an effective "I" beam supporting system consisting of the base vertical wall, the reinforcing elements and the ball impact insert means, said ball impact insert means having a forward surface defining the ball striking surface.

10. A method of manufacturing a golf clubhead of composite materials as defined in claim 9, wherein the

step of attaching a ball impact insert means over the impact wall includes molding in situ a plastic material over the forward wall and into the interstices defined by the reinforcing elements.

11. A method of manufacturing a golf clubhead of composite materials, including the steps of molding a metallic base with a generally vertical impact absorbing wall, forming a plurality of reinforcing bars on the impact absorbing wall projecting forwardly therefrom, placing a face mold over the impact absorbing wall, and molding, using the face mold on the impact wall, a material dissimilar to the base on the impact wall.

12. A high impact golf clubhead, comprising: a base including a high impact forward wall and a perimeter wall surrounding the forward wall and defining a hollow area generally centrally behind the forward wall, said forward wall having a ball impacting face wall with a plurality of generally parallel grooves therein, said ball impacting face having a vertical height of at least 1.4 inches, said forward wall having a substantially uniform thickness inside the perimeter wall to reduce clubhead weight, said base having a shaft receiving hosel therein having an axis that defines with a leading edge of the forward wall a face progression, and means to increase the radius of gyration of the base about a geometric impact center on the forward wall including an extension of the perimeter wall and the forward wall outwardly from the hosel in a direction away from the impact center on the forward wall and perpendicular to the target line, said extension of the forward wall and the perimeter wall not being greater than 0.625 inches from the axis of the hosel in a direction perpendicular to the hosel axis.

13. A high impact golf clubhead, as defined in claim 12, wherein the forward wall is a forward generally vertical ball impact wall having a forward surface lofted to less than 15 degrees, said base perimeter wall surrounding the forward wall and extending rearwardly therefrom and converging rearwardly to envelope the forward wall and define a hollow interior in the base, said base hosel being angled to provide a lie for the base, said forward surface having a geometric center that defines the ball striking axis extending through the forward wall along the target line, said base perimeter wall including a bottom wall portion that extends outwardly from the hosel in a direction from the hosel axis opposite the target line, said perimeter wall including a top

wall portion that meets and converges with the bottom wall portion in a direction from the hosel axis opposite the target line, whereby the forward wall extends a substantial distance from the hosel in a direction opposite the target line to increase the ball impact wall forward surface area.

14. A high impact golf clubhead as defined in claim 13, wherein the top wall portion and the bottom wall portion extend at least 0.500 inches from the axis of the hosel in a direction opposite the target line.

15. A high impact golf clubhead, comprising: a metallic body having a substantially flat ball striking wall on one side thereof angularly related to a vertical plane to provide clubhead loft, said ball striking wall having a plurality of generally parallel grooves therein and a face height of at least 1.40 inches, said body wall having a substantially uniform thickness, said body wall having a heel portion and a toe portion, said body having an integral hosel for receiving one end of a club shaft, means for perimeter weighting the body including an integral metallic perimeter wall surrounding at least a major portion of the body wall and extending rearwardly therefrom forming a cavity in the rear of the clubhead with a bottom defined by the back of the ball striking wall, and means for increasing the perimeter weighting of the clubhead including an extension of the heel portion of the body wall a substantial distance on the side of the hosel opposite the wall toe portion and perpendicular to the target line defining an extended heel portion and an extension of the perimeter wall around the perimeter of the extended heel portion of the ball striking wall, said hosel having an axis, said extension of the body wall and said extension of the perimeter wall not being greater than 0.625 inches from the hosel axis in a direction perpendicular to the hosel axis.

16. A high impact golf clubhead as defined in claim 15, wherein the extended heel portion and the extended perimeter wall project at least 0.500 inches in a direction perpendicular to the axis of the hosel in a plane perpendicular to the target line.

17. A high impact golf clubhead as defined in claim 15, wherein the clubhead is a "wood" and the perimeter wall encloses the rear of the ball striking wall.

18. A high impact golf clubhead as defined in claim 15, wherein the ball striking wall has a loft of at least 9 degrees.

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